California Environmental Protection Agency AIR RESOURCES BOARD	DETROIT DIESEL CORPORATION	EXECUTIVE ORDER U-R-007-0066 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2001	1DDXL14.0VLD	14.0	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Module	Crane, Loader, Tractor, Pump, Compressor, Generator

ENGINE MODELS (rated power in kilowatts, kw)	See Attachment

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
225 ≤ KW < 450	Tier 2	STD	--	--	6.4	3.5	0.20	20	15	50
		CERT	--	--	4.7	0.6	0.11	17	3	35

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 9th day of July 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Model Summary Form

ATTACHMENT

EO# U-R-7-66

Manufacturer: **Detroit Diesel Corporation**
Engine category: **Nonroad CI**
EPA Engine Family: **1DDXL14.0VLD**
Mfr Family Name: **SERIES 60, 14.0L (TIER 2)**
Process Code: **New Submission**

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
1A21	S60, 14L	450 @ 2100 (336 kw)	237.5	165.3	1650 @ 1350	307.4	137.7	~~EC TAA~~ DDI, TC, CAC, ECM (All Models)
1A18		450 @ 1800	258.3	154.1	1650 @ 1350	307.4	137.7	
1B21		525 @ 2100	280.0	194.6	1750 @ 1350	330.6	148.0	
1B18		525 @ 1800	308.8	184.1	1750 @ 1350	330.6	148.0	
1C21		525 @ 2100	279.1	193.9	1800 @ 1350	343.2	163.4	
1C18		525 @ 1800	308.0	183.5	1800 @ 1350	343.2	163.4	
1D20		533 @ 2000	295.1	195.4	1750 @ 1350	331.9	148.6	
1E21		550 @ 2100	294.6	204.7	1750 @ 1350	328.8	147.0	
1E18		550 @ 1800	325.2	193.8	1750 @ 1350	328.8	147.0	
1F21HT		550 @ 2100	294.6	204.7	1750 @ 1350	328.8	147.0	
1F18HT		550 @ 1800	325.2	193.8	1750 @ 1350	328.8	147.0	
1G23		550 @ 2300	278.8	212.2	1750 @ 1350	328.0	146.9	
1H21		575 @ 2100 (429 kw)	307.2	213.6	1750 @ 1350	330.0	147.7	
1H18		575 @ 1800	342.6	204.2	1750 @ 1350	330.0	147.7	
GS1		550 @ 1800	318.8	190.1	NA	NA	NA	